



# The State of Nuclear Risks from the Perspective of Regional Experts

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Global Enterprise to Strengthen Non-Proliferation and  
Disarmament

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## 1. How do you perceive nuclear risks, both in your region and globally?

If we understand nuclear risk as the risk of use of nuclear weapons by states, these risks are increasing globally. This growth derives not only from the mere existence and modernization of nuclear arsenals in the nuclear-armed states and the addition of nuclear warheads in some of them but from the increase in the level of conflict in the international context. The war in Ukraine and the rising tensions between the United States and China, together with other ongoing conflicts, have negatively impacted nuclear risks as they directly or indirectly involve actors that possess nuclear weapons. The presence of states ruled by authoritarian governments - including some of these actors - and, consequently, of leaders making decisions on their own with nobody confronting them, is also a factor in the growth of those risks. Here it is essential to notice that one of the most frequent inaccuracies in the analytical community, and even in governmental strategists, is to attribute rational behavior to those leaders in terms of what is commonly accepted as “rational thinking,” when, in the real world, decision-making is often carried out under a parallel “different rationality,” if not under irrationality. So the psychological factor and style of leadership have a strong influence when it comes to increasing the risk of use.

The global dynamics of the last decades have made clear the systemic nature of nuclear risks involving other factors beyond the risk of use of nuclear weapons by states. It would be more effective and comprehensive to identify relationships between all the faces of nuclear threats. In terms of risk reduction, that leads us to a close interaction between disarmament efforts, non-proliferation, peaceful uses, and nuclear security.<sup>2</sup>

Although Latin America is a nuclear weapons-free zone and also considering that the likelihood of use anywhere in the region is very low, it is broadly accepted that the indirect effects of a nuclear detonation in any distant location around the world, by a state (or by non-state actors) would strongly affect the region (as well as the world as a whole), in all dimensions of human activity. Nuclear weapons constitute a global problem that all countries must jointly address from a realistic approach.<sup>3</sup>

A particular element that needs to be addressed for the Latin American region is the close association between the totalitarian governments of Cuba, Nicaragua, and Venezuela, weak democratic nuclear-weapons states, such as China or Russia, and countries with possible proliferating intentions, such as Iran. The nature of such an association is intrinsically risky. In this sense, any transit or deployment of nuclear weapons in the region derived from those relationships would violate the Treaty of Tlatelolco and should be prevented at any rate.

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<sup>2</sup> Arguello Irma, The Need for a Comprehensive Approach to Reduce Nuclear Risks, FAS, summer 2014. <https://uploads.fas.org/2014/08/Comprehensive-Nuclear-Risk-Reduction-Summer-2014.pdf>

<sup>3</sup> Arguello Irma, Buis Emiliano, et al., Terror Unleashed. An assessment of global and national impacts of a nuclear terrorist attack, Latin American Leadership Network (LALN), 2016. <http://www.laln.org/Reports/TerrorUnleashed.pdf>

## **2. How have nuclear risks changed in recent years—and why?**

After the reduction of tensions following the end of the Cold War, and although the overall number of warheads in the world is continuously decreasing, in recent years, nuclear risks have started to grow, mainly due to an increasingly conflictive global environment, as well as due to the hybrid nature of many of the ongoing conflicts.

The invasion of Ukraine was a milestone that turned out to be a drastic test of the international system. The United Nations bodies, NATO, and other multilateral organizations, as well as the global security legal framework, have been under significant pressure. This has also been the case for decision-making processes in governments and the states' formulation of strategies and tactics. Such a conflictive context raises the risk of use of nuclear weapons.

Taking a comprehensive approach to risk, there has emerged the unprecedented scenario in which a state or its partner irregulars take over and attack opponents' peaceful nuclear facilities. The case of the Zaporizhzhia nuclear power plant, for which the international legal framework fails to provide a precise and effective answer, is emblematic. Similarly, Russia's violation of the 1994 Budapest Memorandum affects the body of non-proliferation rhetoric and the credibility of negative security assurances. Another critical point to consider is that significant open conflicts generate a domino effect and tend to intensify other latent conflicts.

## **3. How are those risks likely to evolve in the future?**

Global instability will continue over time. It will largely depend on the outcome of the war in Ukraine, the evolution of the tensions between the United States and China, with a particular focus on the conflict around Taiwan, the situation in the DPRK, and the development of nuclear negotiations with Iran. Regarding the risk of use, as long as armed conflicts/severe tensions involving nuclear weapon states continue, directly or in proxy arenas, those risks will increase. In addition, the threat of use by nuclear terrorism always remains latent.

## **4. What are the implications of those risks, and how can they best be addressed over the short- and long-term?**

The main implications are growing instability, growing tensions, mistrust, severe damage to relations among states, and, given the nature of most of the present armed conflicts, deterioration—in terms of practical application—of deterrence and security assurances. To summarize, a more insecure world with multidimensional impacts on the quality of life of human beings. This makes it urgent to take action to address nuclear risks realistically. In other words, normative positions like those described as “the only way to mitigate risk is to eliminate nuclear weapons” while the world goes in the opposite direction are counterproductive. In my opinion, even truthfully, such rhetoric cannot respond to the need for risk reduction adequate to the current/ future context. In practical terms, a two-fold strategy would be more realistic and helpful, as described in the fifth point. It is closer to what was described above as “strategic risk reduction.”

**5. What are the implications for discussion and pursuit of risk reduction and disarmament in the NPT review process, beginning with the August 2023 meeting of the Preparatory Committee?**

The Ukraine war has contaminated many multilateral discussions, particularly in the UN environment, even beyond the continuous stress among permanent members of the Security Council. It should be noted that the disagreements that prevented a final consensus document at the Tenth NPT RevCon, which took place on August 2022, were related to whether to include references to the ongoing armed conflict in Ukraine. The proposed draft document, rejected by the Russian Federation, included seven direct references and, therefore, failed to be adopted. The big question here is what would have happened if those references had been re-worded in more general terms by mentioning just the concepts.<sup>4</sup>

In my view, the lesson learned is that in an international context with open armed conflicts involving nuclear weapons states and considering the shortfalls of the current global multilateral system to address many of the related critical issues, the strategy to increase the chances of preserving the key international security multilateral instruments is to carry out negotiations at two different levels: general security diplomacy (macro) and negotiations related to a particular conflict (micro).

In terms of applying this to the NPT Review process, negotiations should be performed at the macro level of multilateral disarmament and non-proliferation diplomacy. It would facilitate the preservation of existing achievements, despite the existence of armed conflict. One such positive expression can be seen in the declaration signed by all leaders of the P5 on January 3, 2022, reaffirming the Reagan-Gorbachev statement, a few days before the invasion of Ukraine. If any positive outcome is sought, such an approach should prevail at the 2023 PrepCom and eventually in any working group devoted to strengthening the Review Process.

In parallel, at a micro level, a dialogue focused on the ongoing armed conflict could set a practical framework that can open negotiation opportunities to address the reduction of specific risks derived from that conflict itself, including a commitment that limits possible escalation.

Summarizing, the political realism of the moment imposes such two-level negotiations by separating any armed conflict involving nuclear powers from the NPT Review process.

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<sup>4</sup> NPT/CONF.2020/CRP.1/Rev.2. Par 34, 35, 99, 144, 187.59 and 187.55, [https://reachingcriticalwill.org/images/documents/Disarmament-fora/npt/revcon2022/documents/CRP1\\_Rev2.pdf](https://reachingcriticalwill.org/images/documents/Disarmament-fora/npt/revcon2022/documents/CRP1_Rev2.pdf)

Lewis A. Dunn<sup>5</sup>

This paper sets out my responses to the five questions posed by the Global Enterprise project. Its purpose is to contribute to a dialogue on this issue.

### **1. How do you perceive nuclear risks, both in your region and globally?**

As a starting point, it is necessary to decide what to include under “nuclear risks.” My definition of nuclear risks includes conventional military conflict triggered by nuclear weapon programs; nuclear arms racing; threat of use of nuclear weapons; and explosive use of nuclear weapons (whether by accident or intention).

*Nuclear risk in “your region.”* With regard to nuclear risks in “your region,” the United States has alliance relationships and close political-military ties in virtually all of the globe’s regions. For that reason, it is necessary and legitimate to consider the state of nuclear risk beyond “the Americas,” that is, in Europe, Northeast Asia, the Middle East, and South Asia. Across these different regions, there is reason for concern that now is the calm before the storm. Consider each very briefly and the dimensions of nuclear risk that stand out.”

#### Europe

Concerns of imminent Russian resort to use of tactical nuclear weapons in the Russia-Ukraine conflict have lessened. However, very senior Russian officials continue periodically to raise the specter of nuclear use if some undefined “red line” is crossed. (Other statements and Russian doctrine have referred to possible use of nuclear weapons in response to an “existential threat” to Russia). At the same time, Ukraine has been able to push back Russian forces on the battlefield and is preparing for further offensives. President Zelensky also has increasingly affirmed very ambitious war termination objectives, up to the recapturing of the Crimea. As the conflict continues to unfold, there is a danger that President Zelensky (and perhaps less so his U.S./Western backers) may push too far, too hard, and miscalculate what is the Russian red line that would trigger limited use of nuclear weapons. The purpose of such use likely would be political, e.g., shattering U.S./Western resolve and readiness to keep up needed supplies to Ukraine, forcing a Ukrainian reassessment of its war termination objectives, and undermining Ukraine’s will to persist.

A different nuclear risk concerns the prospect for nuclear arms racing across the redefined Russia-U.S./NATO divide. So far, NATO has limited itself to pursuing “old business,” e.g., reinvigorated nuclear planning and exercises. A next step would be changes in U.S./NATO deployments of existing nuclear weapons with deployments “to the East” as well as deployments of new intermediate-range missile systems. The result could be the type of arms race that the Intermediate-Range Nuclear Forces (INF) Treaty avoided in the 1980s.

#### Asia

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China is engaged in a major and dramatic transformation of its overall nuclear posture. Given China's aversion to transparency, neither the United States nor its allies have a clear understanding of all of the elements of that transformation, its end point, or its ultimate purpose. At the least, a new U.S.-China nuclear arms race is a likely outcome as the United States responds. In addition, China's nuclear transformation entails activities in new operational areas, including the deployment at sea of ballistic missile submarines, MIRVing of ICBMs (with warheads no longer kept separate from delivery vehicles), use of mobile ICBMs, and development and reliance on a space-based early warning system. This shift into new operational areas could take place very smoothly, or it could result in operational accidents and hiccups. It comprises a different dimension of nuclear risk. As for the risk of use of nuclear weapons, should a conflict erupt between the United States/Asian Allies and China over Taiwan, that risk of nuclear use might not be negligible, if only due to miscalculation or misperception by one or the other side in an escalating conflict.

Elsewhere in Asia, Kim Jong-un has made clear that he is committed to a major expansion of North Korea's nuclear weapons posture. Such a major expansion raises questions about outside assessments that the purpose of North Korea's acquisition of nuclear weapons is defensive—regime survival via legitimacy at home and deterring feared U.S./ROK intervention in North Korea. Following the Putin playbook, he could regard a more robust nuclear posture as an umbrella under which to attempt a conventional attack or even a conventional-nuclear attack or blackmail against South Korea. Short of use of nuclear weapons, the risk of nuclear arms racing will increase.

#### *The Middle East*

Current assessments are that Iran's leadership is seeking to have a nuclear weapon breakout capability but has not decided to build and deploy nuclear weapons. From that perspective, there is risk that Saudi Arabia and perhaps some other countries will seek their own nuclear weapon breakout capabilities. If so, assuming they remain Parties to the Nuclear Non-Proliferation Treaty (NPT), the NPT's legitimacy and effectiveness likely would be eroded. In turn, depending on the specifics of an Iranian nuclear breakout capability—and whether there is reason to believe that its leadership is thinking seriously about going beyond such a capability—Israel or Israel and the United States could well contemplate preventive conventional military action.

#### *South Asia*

Both India and Pakistan continue to develop their respective nuclear weapon postures in a sustained process of nuclear arms racing. In addition, the risk of use of nuclear weapons arising out of a crisis-conflict between these two countries remains in the background. As in the past, the most likely trigger to such a crisis-conflict would be a terrorist incident in India, with clear links to Islamic extremists in Pakistan. The prospects for such an incident, moreover, could increase to the extent that the BJP government of Narendra Modi is committed to the perceived relentless "Hinduization" of India.

Quite differently, the nuclear weapon postures of India and China appear increasingly related, even if only as a sub-text to more direct drivers arising out of respectively the India-Pakistan and the U.S.-China relationships. The likelihood of nuclear use appears very low, however, in any future India-China conflict arising out their continuing border clashes.

#### *Nuclear Risk "Globally"*

Nuclear risk “globally” is in large part a tallying-up of nuclear risk “regionally.” That said, several aspects stand out where “the result is greater than the sum of its parts.”

Taken together, the preceding quick survey of regional risks of use of nuclear weapons suggest that continuation cannot be taken for granted of the so-called global nuclear taboo arising out the record of more than 75 years of non-use of nuclear weapons. In addition, overlooked in the above region-by-region survey of nuclear risks is the extent to which there are linkages and interrelationships among different bilateral nuclear relationships—or what could be called axes of nuclear risk. U.S. deterrence calculations need to consider not only Russia but also a transformed nuclear China. In turn, the U.S.-North Korea nuclear relationship spills over to impact the U.S.-China one, while the U.S.-China relationship spills over to impact the China-India relationship. Thus, complexity has increased. Managing these nuclear relationships in a way to increase stability and lessen nuclear risk (both nuclear arms racing and nuclear use) is likely to be considerably more complicated than managing the bilateral Cold War U.S.-Soviet nuclear relationship.

Closely related to the above, there are other factors that have increased the complexity of managing nuclear risk today. Perhaps the most important one is the extent to which potential conflict between the major nuclear powers could extend into the new domains of space and cyber—and in turn, spill back to impact the nuclear domain. Over time, if AI becomes part of nuclear decision-making, that, too, could result in new and perhaps unknown risks.

## **2. How have nuclear risks changed in recent years—and why?**

In large part, my answer to the first part of this question as to how have nuclear risks changed is contained in the above region-by-region assessment of nuclear risks. Perhaps with the exception of South Asia (which had repeated nuclear crises in the 1990s and early 2000s), the risk of nuclear arms racing and nuclear use is greater today than at any time since the end of the Cold War and the collapse of the Soviet Union in 1991. Managing these risks, as also suggested, has become more complicated and complex.

With regard to “why” have nuclear risks changed, whether of nuclear arms racing or nuclear use, it is useful to distinguish between “acute” and “underlying” causes, though the two are related. The conflict in Ukraine is the best example of an acute cause. Had Russian President Putin not decided to invade Ukraine, we would not be speculating about use of nuclear weapons arising out of that conflict. Somewhat differently, the discovery of the extent of the transformation of China’s nuclear posture has in turn transformed the U.S. debate about deterrence of China. Or Kim Jong-Un’s announced intention to expand his nuclear force impacts assessments of risk on the Korean Peninsula.

Among the most important of the underlying causes of changed nuclear risks is the intensification of conflicts of interests and ambitions between the major nuclear powers. The extent to which such conflicts of interests and ambitions are “real” or “perceived” can be debated. But to take the U.S./NATO-Russia example, even prior to the war in Ukraine, many persons in positions of authority in the United States saw Putin’s goal to be to fundamentally transform the European and global order. Conversely, Putin and many Russians saw the United States and an expanded NATO



as fundamentally hostile to Russia's legitimate interests. A comparable set of assessments exists in the U.S./Asian allies-China confrontation.

As these two examples suggest, leadership values and intentions comprise a closely related underlying cause. It also is at work in South Asia, with Modi's BJP.

Somewhat differently, technological change also is a factor in increasing today's nuclear risk. Its impact is most evident in the prospects for confrontation if not conflict in the twin domains of space and cyber. But heightened nuclear risk also is inherent in some of the specific "nuclear" systems that are or could be deployed, e.g., hypersonic weapons. As noted, how AI is used will impact the level and character of nuclear risks.

### **3. How are those risks likely to evolve in the future?**

Though perhaps unsatisfactory, the answer to this question must be that "it depends." So, depends on what?

The most obvious answer is that it depends on whether the Russia-Ukraine conflict can be resolved diplomatically short of the unknown Russian nuclear "red line." However, even assuming the Ukraine-Russia conflict is resolved in some ultimate diplomatic settlement, political-military relationships have been fundamentally changed. The nuclear risks inherent in a new post-conflict Europe will depend on whether the two sides are able to find a way to reengage to manage those risks. Shifting to Asia, future risk also depends on whether or not the leadership in both the United States and China conclude that an ever intensifying adversarial political-military-economic relationship—intensified by a strategic arms race in the nuclear, space, and cyber domains—serves neither country's longer-term interest. Barring that conclusion, at least from a U.S. perspective, it depends on striking the right balance between a robust deterrent and avoiding unnecessarily provocative military deployments. It depends on whether or not Kim Jong-un concludes that testing U.S./ROK deterrence and resolve is too risky an undertaking.

Most broadly, as the preceding suggests, how nuclear risks evolve depends on the goals, perspectives, and quality of leadership across the many axes of nuclear risk. Leadership will be especially important in determining whether more cooperative pathways to manage and reduce today's nuclear risks will be sought and pursued.

### **4. What are the implications of those risks and how can they best be addressed over the short- and long-term?**

#### *Implications*

Turning first to nuclear arms racing, at one level, regardless of the specific regional axis of risk, nuclear arms racing will have significant opportunity costs in terms of resources not available for other domestic and global purposes. At a different level, nuclear arms racing will reinforce mutual suspicions as well as perceptions of mutually conflicting interests and ambitions by opposing countries. In so doing, nuclear arms racing will, in turn, reinforce the perceived necessity in the first place of such arms racing. In effect, there will be a vicious cycle.

As for the implications of use of nuclear weapons, in theory, scenarios involving the use of a very low-yield nuclear weapon with little loss of life or physical destruction can be crafted, e.g., a detonation in outer space to create electromagnetic pulse to disrupt communications or an isolated demonstration use at sea. By contrast, use of even a low-yield nuclear weapon against a military target in or co-located with a civilian area could result in significant loss of life and destruction. More important, despite doctrines positing otherwise, any use of nuclear weapons is likely to have a very high risk of escalating—whether as leaders and military establishments respond tit-for-tat, seek a decisive advantage by escalation, or, at worst, attempt to achieve the “least catastrophic” outcome for their country.

Assuming for the purposes of argument, however, that it would be possible to avoid escalation, what follows the first use of nuclear weapons in more than 75 years is fundamentally uncertain. First use since Hiroshima and Nagasaki could lead to a fundamental reevaluation of nuclear weapons, with great public and elite pressures to abolish nuclear weapons. Or, first use could be the initial step on a sliding slope to the conventionalization of nuclear weapons, something avoided until now.

#### *Addressing Nuclear Risks — Short Term*

In the short-term, which I define as the next 1-20 years, nuclear risks may be best addressed through a risk reduction strategy that combines tailored measures focused on ameliorating each of the principal regional axes of risk and more global measures intended to strengthen both the global nuclear taboo as well as the principle of non-use of force to resolve inter-state disputes. Some examples from each of these broad approaches should help illustrate such a mix.

Regarding tailored measures, a package of such measures to reduce the risk of Russian nuclear use arising out of the current Russia-Ukraine conflict could include, for example, continued U.S./NATO careful calibration of its support to Ukraine, making clear that Russian nuclear use would have costs outweighing any putative benefits, and pursuit of a political-diplomatic settlement that would restore Ukraine’s pre-war sovereignty while entailing side-arrangements to address more underlying Russian concerns. For the U.S.-China axis of risk, launching a sustained and substantive strategic dialogue is the first step in pursuing of tailored measures to head off accelerating nuclear arms racing in an increasingly adversarial U.S.-China political-military relationship. That dialogue’s purpose should be to identify and implement measures of mutual reassurance and confidence-building. Very differently, ensuring a robust U.S./ROK deterrence posture—even while signaling a readiness to engage—may be the most important element of a tailored package to influence Kim Jong-un.

More global measures are the other side of a nuclear risk reduction strategy for the short-term. Most essential, a diversity of initiatives should be pursued to affirm the global nuclear taboo and make clear the global community’s opposition to any use of nuclear weapons. Many different forums could be used to craft and make such affirmations: the United Nations Security Council, regional political and military bodies, groups of like-minded countries, and treaty-based forums such as the NPT and the Treaty on the Prohibition of Nuclear Weapons. For his part, UN Secretary General Gutiérrez also could use his global “bully pulpit” to continue stressing that nuclear weapons must not be used again. Current work by various entities on defining the responsibilities of nuclear powers—and gaining their adherence—would be another part of such global measures.

In regional and global bodies, reaffirmation of the principle that borders are not to be changed by use of force would be a related action.

### *Addressing Nuclear Risks — Long-Term*

For the longer-term, which I define as beyond the next 20 years, it is essential to identify and pursue a credible vision for a stable and secure global nuclear future. The NPT, and even more so the TPNW, offer one such vision: the abolition of nuclear weapons through their complete physical elimination. As important as this vision of physical elimination may be, it has so far been and may well continue to prove unrealizable. In part, those difficulties reflect the conflicts of interest and ambition so prevalent across today's regions. But let's assume great progress in ameliorating such conflicts. Even then, for governments that possess nuclear weapons, the uncertainties of verification that all of the many thousands of nuclear weapons that have ever been produced have been eliminated and that all of the fissile material that has ever been produced that can be used for nuclear weapons is known and under international control may very well be too great. Equally daunting, continued uncertainties in the ability of the international community to stand up to enforce compliance in such a world also can be expected to provide another break on how far nuclear powers are prepared to go toward the complete physical elimination of their nuclear arsenals.

Is there then an alternative vision to the abolition of nuclear weapons by their complete physical elimination that could be pursued, including by actions in the years ahead? The vision that I continue to believe warrants consideration is the strategic elimination of nuclear weapons by 2045, one hundred years after the first, and it is to be hoped, only use in war of nuclear weapons. In effect, nuclear weapons would be moved to the "back room," no longer being day-to-day instruments of power and strategy. For today's nuclear powers, numbers would be greatly reduced; nuclear deterrence would cease to be policy; institutional planning, preparations, and posturing for use of nuclear weapons would stop; and infrastructure and production complexes would be given over to ensuring the safety and security of residual nuclear weapons. Internationally, a web of transparency and verification measures as well as commitments to procedures for ensuring compliance with accompanying disarmament undertakings would be in place.

Achievement of even the strategic elimination of nuclear weapons would entail be and would entail dramatic change from today's world. But with nuclear weapons eliminated strategically, nuclear risks would have been minimized. They also would have been transformed, with the risk of nuclear breakout replacing that of nuclear use.

### **5. What are the implications for discussion and pursuit of risk reduction and disarmament in the NPT review process, beginning with the August 2023 meeting of the Preparatory Committee?**

The August 2023 meeting of the Preparatory Committee (PrepCom) offers an opportunity for NPT Parties to affirm the importance of sustaining the non-use of nuclear weapons. Doing so would complement other actions now to lessen the risk of nuclear use arising out of the Russia-Ukraine conflict. There are different ways that such an affirmation could be done, ranging from a statement by as many like-minded NPT Parties as possible to a statement by the PrepCom chair on behalf of the Parties. Though breaking precedent, even a formal PrepCom statement could be considered.

The specific wording could draw on the statement by the five NPT NWS affirming the Reagan-Gorbachev principle that a nuclear war cannot be won and must never be fought. Russian readiness to agree once again to such a statement would itself be an important signal.

The August 2023 PrepCom also is an opportunity to set an overall agenda, broadly defined, for discussion of risk reduction in the coming Review cycle. Setting an agenda should entail both substance and process.

As a substantive starting point, Parties should agree next August that both of the main perspectives on nuclear risk reduction will be fully discussed in the upcoming Review cycle. As set forth in the short note accompanying this project: “Some states parties are focused on “strategic risk reduction,” or managing and mitigating nuclear risks in a world where nuclear deterrence remains a fundamental element of the international security architecture. Others are focused on the risk inherent in the existence and possession of nuclear weapons and argue that the only way to mitigate this risk is to eliminate the weapons themselves.” Both perspectives have merit and there is a pressing need for the advocates of the two perspectives to have a sustained action-oriented dialogue with each other.

In addition, Parties should agree that discussion of the “responsibilities” of nuclear weapon states also should be part of the risk reduction agenda in the Review cycle. With careful language, it should be possible to do so without prejudicing the more fundamental point of view of a good number of NPT Parties that there is no responsible possession of nuclear weapons. A focus on “responsibilities” would offer an opportunity to influence the future behavior of NPT nuclear weapon states in constructive ways. It also could lead to identification of actions that NPT nuclear powers should be urged to take.

A further part of this agenda could include exploration of the many substantive nuclear risk reduction proposals put forward in recent years, including both by governments and non-governmental organizations. Here, too, the goal would be to identify promising actions and call for the NPT nuclear powers to take them in the course of the Review cycle.

Regarding process, the August PrepCom should be open to proposals to revamp the existing structure of Subsidiary Bodies. One such proposal would either modify one of the existing three Subsidiary Bodies or create a new one to discuss nuclear risk reduction. The importance of this issue both for achieving the NPT’s goals as well as the vitality of the NPT warrants such a change.

## **1. How do you perceive nuclear risks, both in your region and globally?**

The risk of nuclear weapon use is inherent to their existence, but it grows with tensions and conflicts involving states that possess such weapons. In addition to the continuous risk of military escalation between India and Pakistan, only a few years ago the rhetorical escalation between North Korea and the previous U.S. administration seemed to bring the parties dangerously close to a nuclear war. The Russian war against Ukraine and related tensions between the U.S., NATO, and Russia, in turn, have highlighted the risk of nuclear weapon use in Europe for the first time since the Cold War.

Understandably, European concerns at present tend to focus on the potential first use of nuclear weapons by Russia. Their response has been to strengthen NATO's own deterrence posture, including through greater reliance on nuclear weapons. Also as a consequence of the Russian actions in Ukraine, the U.S. 'nuclear umbrella' is about to be extended to Finland and Sweden. While all this may boost the European sense of security, it is hardly helpful for addressing the more structural problems in the global nuclear order. No matter how strong and stable it is seen to be, nuclear deterrence might always fail, and there is a constant possibility of accidents, misperceptions, and miscalculation leading to nuclear weapon use. In addition to the potential escalation risks involved in further NATO expansion—notably the alliance's greater proximity to Russia's key strategic assets, such as those in the Kola peninsula—greater reliance on nuclear weapons by a conventionally superior military alliance sets a negative precedent for nonproliferation. For example, in the context—where analogies are also drawn between Russia and China—it seems to have become more acceptable for advocates of proliferation in countries like Japan and South Korea to argue for a national nuclear weapon program.

## **2. How have nuclear risks changed in recent years—and why?**

The threat of nuclear weapons being used either intentionally or accidentally due to technical problems, misperceptions, and miscalculation has been there for almost 80 years. However, some modern technologies—notably precision-strike weapons, cyber capabilities, and missile defences—have arguably multiplied such risks. And, as noted above, political tensions and conventional conflicts such as the current one over Ukraine may create perfect storms in which these risks could materialize. Ultimately, it is up to the individual leaders of nuclear-armed states to make decisions that may affect the lives of millions of people and—particularly in the case of the two largest nuclear-armed states—even our planetary existence. Over the last year our fates have seemed to be in the hands of the Russian President, whose psychological state and ability for rational judgement is seriously under question. While the Russian leadership's overblown threat perceptions about NATO and miscalculations about the military operation in Ukraine are to blame for the current situation, in retrospect the western side could have also helped to prevent the deterioration of the situation, for example by showing greater sensitivity to Russian concerns about NATO expansion already before 2008.

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### **3. How are those risks likely to evolve in the future?**

If the worst-case scenario of nuclear weapon use / war will be avoided, most of us will likely continue to live under the shadow of a nuclear disaster without even being fully aware of it. Some might even argue that the fact that nuclear war was avoided proves once again that nuclear deterrence works. If this argument prevails, the nuclear status quo will likely continue more or less unchanged, meaning that the threat of nuclear weapon use will remain a constant, occasionally becoming more imminent and visible with rising political tensions and military escalation in different parts of the world. However, the recent experience of staring into the proverbial abyss in connection with the Ukraine war might also mobilise action to change the status quo in a way that could, in the best-case scenario, help to address and reduce nuclear risks over time.

### **4. What are the implications of those risks and how can they best be addressed over the short- and long-term?**

Nuclear risks can be reduced if there is political will to take steps: a) to prevent and manage political tensions / de-escalate conflicts through skilful diplomacy and readiness for mutually beneficial compromises; b) to reduce reliance on nuclear weapons starting from countries / regions where the conventional balance of power does not really point to any pressing strategic need to rely on them, and c) to take confidence-building, arms control and disarmament steps that can reduce nuclear dangers over time regardless of the recurrence of political tensions and military conflict.

While the only way to completely eliminate the risk of nuclear weapon use is to eliminate such weapons, there are many intermediate steps on the way to that end goal. For example, significant reductions in the vast Russian and U.S. nuclear arsenals based on the logic of ‘minimal nuclear deterrence’ would not eliminate the risk of a devastating nuclear war, but they would reduce the risk of such a war leading to global-scale destruction.

Awareness-raising on the risks involved in nuclear deterrence as opposed to its assumed benefits in relation to conventional deterrence would also be helpful for creating political will towards the above-mentioned policies and changes. At the same time, to break vicious cycles and to avoid short-sighted decisions, efforts should be made to foster a culture that encourages ‘strategic empathy’ towards the adversary to anticipate their reactions and to prevent negative action-reaction dynamics on the basis of national interest, rather than labelling such thinking as sympathising with the adversary.

### **5. What are the implications for discussion and pursuit of risk reduction and disarmament in the NPT review process, beginning with the August 2023 meeting of the Preparatory Committee?**

The NPT / P5 discussion on risk reduction has been rather vague and—following Russia’s nuclear threats in 2022—also lacking in credibility. Yet, the NPT provides the only format where the five nuclear-armed members can come together to state their shared support for nuclear risk reduction in principle. Ideally, such statements could in the future contribute to practical risk reduction measures. Russia and the United States have reportedly already used a bilateral hotline at the start of the war in Ukraine in 2022. While it might not be appropriate to discuss such sensitive risk reduction steps in the NPT context, at least the P5 should act on their previously stated intention

to discuss their nuclear doctrines—notably by clarifying their nuclear weapon use thresholds to avoid misreading each other’s intentions during crises. While the four nuclear-armed states that do not have a No First Use (NFU) policy in place are unlikely to problematise this part of their doctrines in public, there should be a broader discussion on the assumed benefits, risks and the ethics of nuclear first use among NPT membership—including by the Asian and European ‘umbrella states’ who have quietly opposed the adoption of NFU or a ‘sole purpose’ policy by the U.S. The discussion on NFU should be linked to the condemnation of nuclear threats against non-nuclear weapon states, as well as the strengthening of existing Negative Security Assurances.

### **1. How do you perceive nuclear risks, both in your region and globally?**

Nuclear risks in the Middle East are shaped by their global context. At the risk of stating the obvious, it must be recognized that nuclear hazard will persist as long as nuclear weapons states (NWS) and their allies maintain these weapons as a pillar of their security strategies. Indeed, nuclear risks encompass a range of events, from accidental or unauthorized use of weapons, sabotage, proliferation, technical and human error, to deliberate use (possibly based on false assumptions). In reducing risks through increasing transparency, cooperation and eventual disarmament, NWS face a paradox of weakening their nuclear ‘deterrence’ capabilities. On the other side, non-nuclear weapon states (NNWS) are frustrated with NWS’s poor commitments to disarmament. Precarious arms control and disarmament structures exacerbate these problems amid renewed great power tensions and competition in an increasingly multipolar world. U.S.-Russia bilateral arms control agreements are unravelling (a recent manifestation being Russia’s reluctance to cooperate within New START) and the Russia-Ukraine war has lowered the threshold for intentional or accidental nuclear use.

Geopolitical dynamics distinguish the nuclear risks in the Middle East. As the region’s sole nuclear weapon state, Israel is a prevailing locus of concern, along with Iran’s expanding nuclear program and a wider regional turn towards nuclearization. This underlies the ambient and growing tendencies of cyber-attacks to sabotage nuclear facilities and targeted killings of nuclear scientists. Chronically high political instability also multiplies risks from non-state actors and extremists accessing sensitive nuclear materials, technologies and facilities. Israel’s decades-old opacity around its nuclear installations has built a veil of uncertainty around their safety and security, while clouding over their nuclear weapons policy. It adds to this ambiguity by refusing to engage in forums for regional and international disarmament and nonproliferation.

The U.S. withdrawal from the Joint Comprehensive Plan of Action (JCPOA) has hobbled the comprehensive inspection, monitoring, and verification of Iran’s nuclear program—and thus enabled Iran to expand its program, enriching uranium up to 60%. Beyond Iran’s borders, nuclearization of the region is accelerating, bringing additional concerns around proliferation and safety of fissile materials (in particular regarding Saudi Arabia’s nuclear program, which is developing under limited IAEA supervision).

### **2. How have nuclear risks changed in recent years—and why?**

Recent modernization programs and technological advances have created an ominous backdrop to political developments, such as world leaders' rhetoric threatening nuclear weapon use and the dilution of arms control agreements. All NWS have invested in modernizing and expanding their nuclear weapons programs. This contributes to their reliability and potency, but also further entrenches them in security doctrines, potentially playing into arguments to deploy them. The digitalization of old analogue control systems also increases the risk of cyber-attacks on nuclear infrastructure.

At the same time, leaders have increasingly resorted to veiled threats of using nuclear

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<sup>7</sup> Emad Kiyaei is a Director at the Middle East Treaty Organization.



weapons, which in turn has distorted threat perceptions among other NWS. Yet multilateral institutions continue to be weakened, further undermining their ineffective conflict resolution mechanisms and toothless enforcement of arms control conventions. Severed U.S.-Russia relations also represent a major nuclear risk factor through the reversal and violation of bilateral arms control agreements, such as the INF Treaty and New START. Nonetheless, new legal and scientific instruments offer cause for hope in disarmament and nonproliferation, such as the Treaty on the Prohibition of Nuclear Weapons (TPNW). A growing body of research cataloguing the humanitarian and environmental consequences of nuclear war has also become a key advocacy and campaign tool for global disarmament.

Finally, the rapid technological advances in cyber, artificial intelligence, and autonomous weapons systems make a dangerous intersection with nuclear systems, especially due to a concurrent failure to develop adequate legal regimes. These advances can target and exploit vulnerabilities in critical nuclear infrastructure, communication, and command and control systems.

### **3. How are those risks likely to evolve in the future?**

The global order is likely to continue being characterized by unilateralism, geopolitical tensions, great power competition, and weakening multilateral institutions. In this environment, nuclear-armed nations and their partners will continue to rely on nuclear deterrence and form alliances against adversaries. International organizations will continue to be delegitimized and ineffective, and arms control agreements will be disregarded.

Additionally, technological advances will introduce new areas of risk that lack bilateral or multilateral agreements to mitigate their impact, increasing the likelihood of nuclear weapons use intentionally or by accident. Despite this, there is a possibility that new tools and mechanisms will be explored to de-escalate, reinforce international norms, and renew arms control agreements as we dangerously approach the precipice.

In the Middle East, the absence of a revived JCPOA will further encourage Iran to expand its nuclear program. This would in turn expand Israel's ongoing sabotage and assassination operations against Iranian military and nuclear facilities. Like a self-fulfilling prophecy, this could change the Iranian leadership's historic position on developing nuclear weapons. This would spell the end to Israel's nuclear weapons monopoly and accelerate regional nuclear proliferation. In this context, Saudi Arabia's aggressive nuclear program will include weaponization. As a strategic U.S. ally, Saudi's nuclear program will not face the coercive tactics of the sort imposed on Iran. Alternatively, a revived JCPOA, coupled with progress in UN-led negotiations to establish a WMD-free zone in the Middle East, would forestall such an escalation.

### **4. What are the implications of those risks and how can they best be addressed over the short- and long-term?**

The converging factors described above create an urgent need to strengthen crisis management tools and implement policies that mitigate miscommunication and miscalculation among nuclear-armed nations. In the short term, NWS can reduce risks through steps like maintaining direct communication between political and military decision-makers (notably the U.S. and Russia); prolonging the decision time to use nuclear weapons through de-targeting and de-alerting measures; and political statements that promote de-escalation and reaffirm commitment to current arms control agreements.

In reality, complete disarmament by all nuclear-armed nations is the only way to guarantee a drastic reduction in nuclear risk. In the long term, short of such a solution, NWS can work towards greater transparency, trust, and cooperation. Increased transparency on their nuclear doctrines and postures is essential to avert misunderstandings. NWS can initiate joint trainings in risk reduction, safety and security of nuclear weapons and facilities, while reducing their nuclear arsenals. They can accompany such measures with agreements that limit cyber attacks on critical infrastructure, and that provide legally-binding negative security assurances.

NWS, allied countries, and other nations pursuing nuclear capability must shift their thinking on disarmament and seriously consider the humanitarian consequences of nuclear weapons versus the perceived security benefits of nuclear deterrence. They must engage constructively in disarmament and nonproliferation forums, and support initiatives to establish new Nuclear Weapons-Free Zones and WMD-Free Zones in regions like the Middle East.

**5. What are the implications for discussion and pursuit of risk reduction and disarmament in the NPT review process, beginning with the August 2023 meeting of the Preparatory Committee?**

The recent NPT Review Conference failed to make progress in reducing nuclear risk and disarmament. Future meetings of the Preparatory Committee are expected to face further divisions among NWS. Despite this pessimistic outlook, the current NPT Review Cycle offers an opportunity for incremental but meaningful progress. NWS's nuclear disarmament commitments have previously been overshadowed, intentionally or not, by other proliferation concerns. The heightened risk of nuclear war arising from recent events, not least Russia's invasion of Ukraine, has brought the topic of disarmament back into focus. At the upcoming PrepCom of August 2023, the majority of NPT member states have new urgency to advocate for NWS to deliver on their Article 6 disarmament commitments.

The 1995 indefinite extension of the NPT stipulates that member states commit to advancing a WMD-free zone in the Middle East. With the world's attention back on nuclear disarmament, member states should support and strengthen ongoing UN-led efforts to establish such a zone. Meanwhile, supporting all diplomatic efforts to reviving the JCPOA, especially from the P5, will go a long way to boost confidence in multilateralism and nonproliferation.

## **1. First, how do you perceive nuclear risks, both in your region and globally?**

In my perception, nuclear risks have grown in recent years, both globally and in my region, Europe. The Ukraine War and Vladimir Putin's veiled or open nuclear threats have brought back "nuclear fear," up to a point where both the German Chancellor as well as the U.S. President speak of the necessity to prevent nuclear war. Thus, particularly in Europe the risk stemming from possible nuclear weapons use seems to be the highest since the end of the Cold War, if not the highest since the Cuban Missile Crisis. Whether these risks are actual, real risks or just part of the Kremlin's playbook to coerce the West into giving up its support for Ukraine has become a matter of almost religious belief. And depending on one's viewpoint, conclusions are drawn as regards the level of military support for Ukraine. The problem with this debate is that neither side can verify its own claims and thus, nuclear risk remains a matter of perception, at least in Europe.

Meanwhile, on the Korean peninsula, nuclear risks have grown as well, with Pyongyang issuing more substantive and material nuclear threats than in the European case. What seems to be aggravating the situation is that proliferation threats from South Korea seem to enjoy more public backing than in previous decades. Therewith, the specter of a nuclear arms race, with all the concomitant risks, could become a reality for Northeast Asia. In the Middle East as well, nuclear risks are growing in my perception. Iran's edging closer to the bomb and the reelection of Benjamin Netanyahu point to more aggressive foreign policy postures and could increase the already existing security dilemma in the region.

## **2. How have nuclear risks changed in recent years—and why?**

Answering this and the following questions, I will focus on the Euro-Atlantic region, which is not only my area of expertise, but which is also burdened by an ongoing war, directly or indirectly involving five nuclear actors (Russia, the United States, NATO, France, and the United Kingdom). While the previous years, particularly after Russia's first attack on Ukraine in 2014, saw much attention being devoted to nuclear risks stemming from potential inadvertent or accidental escalation pathways, 2022 changed the game. These days, nuclear risks and the perceptions thereof are much more closely tied to deliberate escalation pathways, i.e., Russia possibly using tactical nuclear arms to achieve war gains; Putin possibly resorting to nuclear use to save his rule and the survival of his kleptocratic regime; Russia resorting to demonstration strikes to impress the West and/or the Kyiv leadership.

At the same time, both sides, the Western coalition and Russia, seem to show an interest in avoiding inadvertent escalation pathways, as demonstrated by early efforts to establish a hotline or by the swift and deescalating reactions after the Ukrainian missile strike on Polish territory, killing two Poles. Whether these two trends, or changes, are actually positive or negative in terms of reducing nuclear risk depends again on the viewpoint. If you believe that nuclear deterrence between Russia and NATO is (largely) stable and continues to serve its purpose of preventing the worst, then yes, you are probably judging the risk more manageable right now. If you believe that the course of the war will directly influence the nuclear calculus of the Kremlin, then perhaps you are much more worried about nuclear risk right now.

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### **3. How are those risks likely to evolve in the future?**

I expect the existing nuclear risks in the Euro-Atlantic area to evolve along the lines of evolution of the ongoing war in Ukraine and the Western support that Ukraine receives. Both variables—war evolution and Western support—are mutually dependable. The Kremlin has shown a willingness to try to coerce the West into giving up or scaling back its support for Ukraine while at the same time deterring the West from attacking Russia or openly entering the war with “boots on the ground.” While the latter has succeeded, the former has, thus far, failed.

Nevertheless, increased Western support as well as Ukraine gaining the upper hand in the fighting could trigger a new round of Russian nuclear threats, including more substantive threats, e.g., visible movement of tactical nuclear warheads out of storage, thereby increasing nuclear risk and perceptions thereof. Somewhat inversely, if continued or increased Western support would not significantly affect the situation on the ground or if Russia were to make significant territorial gains in the next months and years, nuclear risks may go down.

### **4. What are the implications of those risks and how can they best be addressed over the short- and long-term?**

One of the implications of the Kremlin’s nuclear threats pertains to the concept of nuclear deterrence. Vladimir Putin has misused the deterrence concept to shield conventional aggression against a peaceful neighbor against possible outside intervention. This will create problems for deterrence proponents in the future, for the concept has been described largely in the past as a defensive one. Now, it has been applied in a clearly offensive context. Justifying nuclear deterrence concepts on their alleged exclusively defensive qualities will become more difficult in the future, and critics of nuclear deterrence, for instance in the TPNW framework, might see their arguments strengthened. In that context, other states could try emulating Russia’s tactics of leveraging nuclear threats in conjunction with conventional aggression. China and its ambitions vis-à-vis Taiwan come to mind. In order to address the possibly resulting risks, nuclear as well as non-nuclear states should collectively condemn any nuclear threats and particularly those ones made in pursuit of war objectives. The G20 Bali Statement is a very good starting point in that regard. But much more needs to be done: a multilateral convention prohibiting dangerous nuclear behavior (threats, overly aggressive postures, risk-seeking behavior, etc.) could help mitigate some of the resultant risks over the long-term.

Another implication could pertain to the nuclear taboo, i.e., a shared norm not to use nuclear weapons (again). The norm has just demonstrated its persuasiveness to a majority of states when G20 Heads of State and Government spoke out against possible nuclear use. The Director of the CIA, Bill Burns, stated clearly that India’s and China’s speaking out against possible Russian nuclear use were “very useful.” So far, so good. Over the long run, however, the taboo, could be severely damaged by repeated nuclear threats issued by the highest echelons of the Russian leadership. Norms research has shown that repeated acts of vocal norm contestation, and particularly by elites, can permanently weaken a norm. Again, in order to strengthen the non-use norm, multilateral action would be needed, taking the Bali Summit as a promising point of departure.

### **5. What are the implications for discussion and pursuit of risk reduction and disarmament in the NPT review process, beginning with the August 2023 meeting of**

## **the Preparatory Committee?**

I expect the implications of the Ukraine War to be profound. In conjunction with Ukraine, the question comes up what contribution, if any, arms control (in a broader sense) played in preventing possible Russian nuclear use against Ukraine, should Moscow ever have seriously considered that option. Obviously, bilateral U.S.-Russian agreements were never designed to address any such circumstances, and risk reduction measures seem to have played, thus far, a rather minor role. Meanwhile, those nonproliferation agreements that were meant to guarantee Ukraine's security, such as the Budapest Memorandum, failed. Therewith, one could be provocative and conclude that neither bilateral nuclear arms control nor risk reduction measures nor multilateral nuclear nonproliferation agreements have any stability relevance in the 21<sup>st</sup> century beyond safeguarding stability between nuclear-armed powers and their protégés. All others—see Ukraine—are left to their own devices.

In addition, the NPT cycle is already heavily affected by the decades-long crisis in arms control, which has weakened prospects for actual nuclear disarmament. I expect the crisis in arms control to continue, up to the point where New START would end without any successor regime in place in February 2026. Without arms control and with the prospect of a competitive multipolar nuclear order, including at least the United States, Russia, and China, Article VI disarmament commitments by the nuclear-weapons states wouldA be further pushed into an uncertain future. As a consequence, the TPNW will gain more traction in the short-term. Over the long-term, however, with real disarmament perhaps becoming a distant prospect, frustration will also grow amongst TPNW proponents. Whether the NPT would survive such a multi-competitive future remains to be seen.

## **1. How do you perceive nuclear risks, both in your region and globally?**

From the viewpoint of Warsaw, current perceptions of nuclear risks are shaped mostly by the actions and nuclear capabilities of Russia, and the consequences of its aggression against Ukraine. One dimension of the risk is connected with an increased danger to the Ukrainian civilian nuclear infrastructure, most importantly its nuclear power plants: those under Russian occupation and those which can be put in danger directly or indirectly (accidents) by Russian attacks. The other dimension has to do with the potential of deliberate use of nuclear weapons by Russia against Ukraine or NATO countries. It still remains a low-probability scenario, but cannot be completely ruled out.

Globally, among the particularly worrying developments are a threat of another nuclear test by North Korea (and more generally, its nuclear brinkmanship) and the potential nuclear breakout by Iran. In the latter case, the complete collapse of the JCPOA and advancement of the Iranian nuclear programme may result in Iran either violating NPT's non-proliferation pledge or withdrawing from the treaty, with regional and global consequences. The dangers inherent in the nuclear dimensions of the Sino-American competition and the relations between India, Pakistan and China are acknowledged, but considered as a less direct threat when compared to situations in the immediate neighbourhood.

## **2. How have nuclear risks changed in recent years—and why?**

The basic change may be that in recent—at least when it comes to the Euro-Atlantic region—the main problem is no longer the risk of inadvertent escalation, lack of understanding of the other side's intentions, posture and actions, miscalculation, misinterpretation, accidents, or incidents, but rather the threat of intentional escalation to the nuclear level. Since February 2022, we have witnessed the employment of nuclear coercion tactics and manipulation of risk by Russia, motivated by its assessment that the other side (U.S. / NATO) would become risk-averse and thus more ready to restrain military assistance to Ukraine.

Beyond Russia, it is questionable whether all nuclear armed states remain equally concerned about nuclear risks. China has continued to consider its lack of transparency on nuclear capabilities and modernization and reluctance to earnestly discuss its nuclear doctrine as an asset rather than a problem. Therefore, despite jointly agreed statements rejecting nuclear war (such as the one agreed by the leaders of the five nuclear-weapon states in January 2022), there seems to be a fundamental mismatch between strategic approaches to nuclear risk reduction.

At the same time, the recent years have demonstrated to Poland and a number of other countries the value of nuclear extended deterrence guarantees. They do not perceive the possession of nuclear weapons and nuclear deterrence doctrines of the U.S., France and the UK as a risk factor, but rather as an element of assuring common security. Their general support towards risk reduction measures is therefore somehow constrained by their concerns about hindering the effectiveness of nuclear deterrence—as seen for example by the opposition from a number of allies to the U.S. adoption of a No First Use posture.

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<sup>9</sup> Łukasz Kulesa is the Acting Head of the Research Office at the Polish Institute of International Affairs.

### **3. How are those risks likely to evolve in the future?**

The risk of intentional nuclear use will likely remain high, as long as the Russian aggression against Ukraine (and provision of military assistance to Ukraine by the U.S. and other countries) continues. Russia may intensify its nuclear brinkmanship in case of battlefield defeats or to strengthen its position in any future ceasefire / peace negotiations. Its aim may be to try to convince Western public opinion that the risk of nuclear escalation has increased significantly, and therefore freezing the war would be preferable to exposing European countries to the threat of nuclear conflict.

Even in case of a negotiated termination of the war in Ukraine, Russia and Western countries would most likely be engaged in a long-term confrontation, with a prominent nuclear dimension and related nuclear risks. Another factor to be taken into account is the low-probability scenario of collapse of the current Russian regime, which would raise the threat of losing control over nuclear weapons and materials, risk of unauthorised use or nuclear proliferation.

### **4. What are the implications of those risks and how can they best be addressed over the short- and long-term?**

The challenge of limited interest of Russia and China in the nuclear risk reduction agenda, and the likely persistence of the political and strategic sources of tensions between the nuclear-armed states, cannot be easily overcome. The objectives for the next months and years should not be over-ambitious—at least when it comes to cooperative measures.

Preserving the existing basic risk reduction instruments with Russia and developing in full a similar set of agreements with China may be the short-term priority. These instruments include direct communication links (“hotlines”), agreements on notifications and direct communication in case of nuclear accidents or incidents, agreements on prior notifications of strategic missile launches or major strategic exercises, and the technical rules of the road (codes of conduct) for minimizing the chances of and managing the consequences of incidents involving armed forces operating in close proximity.

There should be perhaps an increased emphasis on unilateral or minilateral (e.g. UK-U.S.-French) risk reduction measures. Their aim would be not only to signal restraint to other nuclear states, but also to reassure the broader international community. These measures could include reviewing and demonstrating the reliability of nuclear command and control systems, as well as increasing safety and security of nuclear weapons against cyber interference, accidental or unauthorized use (along the lines of “fail-safe” reviews), or a voluntary increase of the level of nuclear transparency. While ideally such initiatives should be pursued by all nuclear states, unilateral initiatives will also have significant value.

It should be highlighted that the existence of risk reduction arrangements does not in itself guarantee increasing the stability of relations between the nuclear powers. Their impact should not be over-estimated. During the Cold War, military incidents and period of heightened tensions occurred between the U.S. and Soviet Union also after the establishment of a range of risk reductions instruments.

### **5. What are the implications for discussion and pursuit of risk reduction and disarmament in the NPT review process, beginning with the August 2023 meeting of**

## **the Preparatory Committee?**

In the NPT context, it is difficult for any state to question the vital importance of limiting the danger of inadvertent nuclear war or argue against the necessity of reducing nuclear risks. The nuclear risk reduction agenda can be presented to the broader international community as evidence of responsible behaviour of nuclear weapon states, consistent with their NPT obligations. In the previous review cycle, the nuclear risk reduction agenda seemed to be the most promising approach uniting all the five nuclear weapon states (P5), in terms of focusing on the basic guardrails to assure strategic stability at the time when more ambitious arms control instruments were not attainable.

In the new cycle, given the developments described above, it may be difficult—and perhaps not desirable—for the P5 to maintain a common stance with regards to the risk reduction agenda. The U.S., UK and France may be willing to continue to move forward and highlight their own agenda and proposals for risk reduction and contrast their behaviour particularly with the actions of Russia. This may complicate the review process but may be preferable to the attempts to maintain a lowest-common denominator P5 solidarity.

The emphasis on nuclear risk reduction will most likely still be criticized by a number of non-nuclear weapon states and NGOs. It can be presented as a way to distract attention from the failure of P5 countries to pursue in good faith negotiations towards nuclear disarmament, the stalling (or reverse) of numerical reductions, and entrenchment of nuclear deterrence doctrines. Even if some nuclear states would be able to credibly demonstrate their risk reduction credentials, this would probably not be enough to avoid tensions over the lack of progress on NPT Article VI.



## 1. How do you perceive nuclear risks, both in your region and globally?

Africa has a limited regional perception of nuclear risk in real security terms. Since my own country (South Africa) dismantled its nuclear weapons programme, eliminated the weapons produced and joined the NPT in 1991, the risk diminished dramatically. The OAU decision of 1964 on denuclearization was also in part due to concern over testing in Algeria. The Pelindaba Treaty of 1996 establishing the African Nuclear Weapon Free Zone, after South Africa's dismantlement, expresses continued concern on nuclear weapons. The issue of the Israeli programme continues to be a concern to African States, especially Egypt and also one of their reasons for not ratifying the Pelindaba Treaty nor the Treaty on the Prohibition of Nuclear Weapons (TPNW) until a Middle East zone free of nuclear and other weapons of mass destruction is established.

However, the interconnected nature of things has been clearly brought home to African States as a result of the Ukraine conflict. Although, it is essentially a war being fought with modern conventional weapons, it has been accompanied by the blatant threat of nuclear weapons use. Military bases on the African continent are also a cause of concern in the event that nuclear weapons would be used. The repercussions of that entire situation have triggered concerns of food insecurity and rising costs that have adversely affected several African countries. Another issue is the concept of negative security assurances (NSAs), which have taken a massive body blow, and many are now questioning the credibility of such assurances given to NNWS by NWS. The reservations maintained by NWS and the non-ratification of some of the Protocols to the Pelindaba Treaty also remain an ongoing concern.

Globally, for African countries the existence of nuclear weapons constitutes the real nuclear risk. The only guarantee against this risk and their use is their elimination.

The lack of disarmament over the past 25 years and unabated modernization of nuclear weapons, juxtaposed with ever-increasing non-proliferation measures and restrictions which are perceived as stifling the peaceful uses of nuclear technologies on the Continent, are raising questions about the true nature of nuclear risk. One response, in the face of the huge power disparities between nuclear weapon States and African States, has been to join global efforts to establish and strengthen norms against the possession of nuclear weapons as well as their catastrophic humanitarian consequences. Most are subsequently States parties or signatories to the Treaty on the Prohibition of Nuclear Weapons.

All African States recognize the security concerns of nuclear-armed States and are in principle supportive of efforts to reduce the risk of any use of nuclear weapons and keen to contribute to disarmament, non-proliferation and arms control efforts in that regard, including through the NPT. However, they insist that nuclear risk reduction is neither a substitute nor a prerequisite for nuclear

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<sup>10</sup> Thomas Markram (retired) was previously Director and Deputy to the High Representative for Disarmament Affairs at the United Nations and also formerly a senior South African diplomat.

disarmament and that efforts in this regard should contribute to progress in and complement implementation of Article VI and related nuclear disarmament commitments.

## **2. How have risks changed in recent years—and why?**

Globally, the geopolitical and strategic landscape has over the last decade been transformed with multipolarity and increased competition among the U.S. and States under extended nuclear security guarantees on the one hand and the Russian Federation and China on the other. Distrust of each other's nuclear doctrines and intentions has been exacerbated as global competition and contestation for economic supremacy and natural resources take on a more pronounced and hardened posture. Regional tensions have also increased. These include concerns over the nuclear programme of Iran, the escalated risk of the DPRK's nuclear weapons programme and tensions in Southeast Asia. The Ukraine war is an acute example, but generally nuclear risks have increased dramatically.

Despite declining numbers of nuclear weapons since the Cold War era, the qualitative improvement of weapons and newer developments in technologies have also exacerbated risk. The full implications of technological developments on risk and security remain uncertain. These include the destabilizing effects of missile defence, hypersonic missiles, cyber, artificial intelligence, quantum computing, and anti-satellite weapons.

## **3. How are those risks likely to evolve in the future?**

Risk is a dynamic concept, and increased military expenditure and deployments of all new tech weapons systems, including by NNWS, will increase unless the slide—real or perceived—is halted.

The increasing number of members in alliances and partners that are covered by nuclear deterrence has the potential to escalate tension and risks. Non-nuclear weapon States under extended nuclear security guarantees continue to be a concern as they espouse both the benefits of nuclear weapons and the dangers of these weapons at the same time. This creates problems for NNWS who want NSAs.

## **4. What are the implications of those risks and how can they best be addressed over the short- and long-term?**

No clear or one path. Reducing risk will require addressing fundamental issues of mistrust.

In the short term the priority should be to enhance mutual understanding of what can be done to reduce risk in practical terms.

The international community must insist that the taboo against the use of nuclear weapons be upheld. Emphasis must be placed on the stigmatization of nuclear weapons and not to make them an option for States to revert to, whether directly through weapons programmes or indirectly through alliances.

An imminent return to bilateral strategic engagement between the U.S. and the Russian Federation is unlikely in the current heightened atmosphere of tension but must be a top priority. More serious efforts must be made to bring China into a similar strategic engagement with the U.S. and with the U.S./Russia. If officials are not able to meet in the short-term, there should be room for more informal dialogue settings to start building greater understanding and confidence.

N5 or P5 dialogue should continue.

Political and military leadership is needed to seriously address the basic fallibility of nuclear deterrence—sooner or later it will fail. Continued adherence to this concept or those aspiring to join the club should realize it is not in their best interests.

Addressing the credibility of negative security assurances will be difficult. Despite the members of the Conference on Disarmament retaining this as a core issue, any progress is unlikely. The NPT remains the best avenue to pursue recommendations dealing with this issue and efforts should be made in the new review cycle in this regard.

Elimination of nuclear weapons is the only guarantee in reducing risk of their possible use. Agreed disarmament commitments and action plans must be implemented.

**5. What are the implications for discussion and pursuit of risk reduction and disarmament in the NPT review process, beginning with the August 2023 meeting of the Preparatory Committee?**

A start would be to assess what status the relevant paragraphs (para. 187 with subset paras. 35 to 39) of the working paper by the President of 2022 NPT Review Conference on a final document still have, and whether they constitute a basis to move forward and build upon. It is acknowledged that States parties at the Review Conference regard the working paper document in its entirety as a package and therefore only lifting out this component for attention may be problematic. If States parties can be flexible on this, a starting point could be to have a discussion at the first session in August on where there are opportunities during the review cycle to move ahead on these paragraphs.

However, all efforts must be made in the working group on the strengthened review process prior to the Preparatory Committee and at the actual first session to ensure time is allocated to engage in dialogue on this topic. The Chair's consultations in preparation for the session should lay the groundwork to moving forward to address this issue.

## **1. How do you perceive nuclear risks, both in your region and globally?**

Nuclear risks have been increasing globally over the last decade. After a period of arms reductions and progress on arms control, tensions between nuclear armed states have begun increasing again. This increased in turn the likelihood for escalation of conflict, especially over misperception and misunderstanding. Any conflict between nuclear-armed states is dangerous as it drastically increases the likelihood of further escalation into nuclear conflict. In addition, uncertainties over the role technological advances and new and disruptive technologies may play in a conflict scenario means that nuclear armed states are extending nuclear deterrence postures to deter against ‘high-consequence strategic-level attacks’ even if these attacks are executed by non-nuclear means.

As a response to increasing tensions in the global system, different nuclear weapons states have also made decisions in the last few years to increase the number of their nuclear arsenals again, or to at least reserve the right to do so. For example, the UK announced a small increase in warheads in the 2021 Integrated Review, China has increased its nuclear arsenal significantly already and is continuing to do so, and Russia and the U.S. are also developing new nuclear systems.

In Europe, the war in Ukraine has further increased nuclear risks. There is the risk that the war could escalate further into a confrontation between NATO and Russia, which would carry a greater risk for nuclear escalation. President Putin has also made several ambiguous nuclear threats throughout the war, either aimed at Ukraine, or at NATO countries supporting Ukraine, depending on how one interprets them. These threats have raised the concern that Russia might use nuclear weapons in Ukraine if it is concerned that it might lose the war.

## **2. How have nuclear risks changed in recent years—and why?**

On the whole, nuclear risks have increased in recent years. This is primarily due to the increases in global tensions between different nuclear actors, which make it more likely that the other’s actions will be read aggressively regardless of intent, and that escalation by the other side is expected. As mentioned above, stretching deterrence concepts also increases the risk of nuclear use, because it increases the set of circumstances under which nuclear weapons might be used.

It also heightens the ambiguity of the circumstances under which nuclear weapons might be used. For example, the 2021 UK Integrated Review states that “[the UK] reserves the right to review this assurance [of not using nuclear weapons against non-nuclear armed actors] if the future threat of weapons of mass destruction, such as chemical and biological capabilities, or emerging technologies that could have a comparable impact, makes it necessary.” While it is common practice for nuclear armed states to use nuclear weapons to deter against other WMD use, the introduction of emerging technologies raises the question: under which circumstances would it be proportionate to respond to a non-nuclear attack with nuclear weapons?

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The war in Ukraine has not only increased the risk of nuclear weapons being used, it has also increased the risk of nuclear weapons proliferation becoming more attractive for current non-nuclear weapons states. As Russia seems to have calculated that others would be unlikely to come to Ukraine's aid due to Russia's nuclear status, there is a concern that other states may therefore feel pushed towards considering acquiring nuclear weapons themselves, in order to protect themselves from a conventional attack. The President of the Republic of Korea said just in January 2023 that acquiring nuclear weapons might become a necessity for the country if the DPRK's nuclear programme continues to pose a challenge. While the ROK for now relies on U.S. extended deterrence for its security, the fact that the President publicly considered the possibility of ROK developing nuclear weapons ought to be seen as a grave warning sign of the direction of travel for non-proliferation.

As existing nuclear armed states are increasing their arsenals, a higher number of warheads also increases the risk of something going wrong—whether that is an unintended escalation or an accident. If additional actors acquire nuclear weapons, even more complexity is introduced into an already complex system of deterrence relationships, and the likelihood of nuclear use increases further.

Putin's nuclear threats have shown how easily nuclear armed states can use nuclear weapons for political purposes. Putin may not only have increased the pull of nuclear weapons for other states, but he may also have increased the likelihood that a Russian action may be misinterpreted as a nuclear escalation. By signalling Russian willingness to use nuclear weapons, he has put Western states on high alert—which means that if a Russian signal is misinterpreted or ambiguous, it could trigger a nuclear launch against Russia.

### **3. How are those risks likely to evolve in the future?**

How war in Ukraine ends will have big implications for nuclear risks in Europe: there is the potential that Russia will rely far more on nuclear deterrence in the future as its conventional capabilities have suffered already during the war, and may suffer further the longer the war continues, and the more sanctions inhibit Russia from reinforcing its conventional capabilities. This would make any further confrontation that much more dangerous as it may mean that Russia's nuclear threshold is going to become lower. As global tensions stay high, states are likely to continue to stretch deterrence concepts, thereby potentially lowering the threshold to nuclear use further.

If additional countries develop nuclear capabilities, this could de-stabilise the situation further. A nuclear-armed Iran could lead to dangerous nuclear confrontations with Israel, and it might encourage other actors in the Middle East to develop their own arsenals. More nuclear actors also create additional risks for the diversion of nuclear materials and might re-enliven discussions around nuclear terrorism and dirty bombs.

There might also be a previously more unusual risk on the horizon which the international community last faced in the early 1990s: Pakistan faces a range of challenges in 2023 and likely beyond. After the devastating floods in 2022, the country is in bad economic shape. There are ongoing political tensions between the government and the opposition. The Taliban have gained

strength in different parts of the country. All this instability raises concerns about the security of Pakistan's nuclear weapons. If the political stability of Pakistan is in question, the global community might be confronted with a situation that is not unlike the risk posed by the breakup of the Soviet Union in the early 90s, and the concerns around 'lose nukes' that brought with it.

#### **4. What are the implications of those risks and how can they best be addressed over the short- and long-term?**

In the short term, especially as the war in Ukraine continues, the best risk mitigation method is clarity of message, engagement with one another and restraint. In the face of Putin's nuclear threats, NATO and the individual nuclear-armed NATO member-states have responded clearly and decisively while showing constraint. Further threats may require further shows of strength which strike the right balance between restraint and resolve.

In the longer term, and especially in regions with nuclear tensions but without ongoing warfare, confidence-building measures and dialogue-based approaches are a good risk management tool. Gaining greater clarity about the other actor's intentions, about how they understand threats and how they understand pathways to nuclear escalation can help increase mutual understanding as well as provide guard rails in case the situation deteriorates.

We also need to invest in further thinking around how we can return to and expand upon arms control, especially addressing open questions about new capabilities and how they might fit into escalation pathways.

#### **5. What are the implications for discussion and pursuit of risk reduction and disarmament in the NPT review process, beginning with the August 2023 meeting of the Preparatory Committee?**

Risk reduction is going to be an important topic throughout the next review cycle. It is a good topic of discussion as there is a real need to reduce a range of different risks. It is very promising that states agree that it is an important topic.

However, the political prominence that risk reduction has received over the 2016-2022 Review Cycle bears its own risk that the topic could turn into yet another blockage in the NPT. Discussions between NNWS and NWS at the 2022 Review Conference have highlighted that there are political differences on how risk reduction is defined and what is seen as 'the right kind of risk' to be focusing on. There is also disagreement over the end goal of risk reduction. NWS prefer to focus on 'strategic risks' and see them as part of their deterrence work, whereas NNWS see all nuclear risks as equally important of discussion. Some NNWS worry that risk reduction might become a replacement for disarmament because of the amount of air space risk reduction discussions are already taking up within the NPT. These differences could lead to political blockages at a time when the NPT is already encumbered by several blocked processes.

Over the next review cycle, states should take the risk reduction focus as an opportunity for dialogue. They should focus their work on what is possible within risk reduction and be generous with each other in discussions so as to avoid blocking the process. An overly narrow focus on

definitions of what is and is not risk reduction might poison the process. It will also be important to be able to show practical progress on risk reduction by states implementing certain measures on their own or jointly and reporting on their results.

### **1. How do you perceive nuclear risks, both in your region and globally?**

Nuclear risks in the Asia-Pacific region are high and increasingly alarming, owing to a clear absence of political dialogues and communication platforms involving States that possess nuclear weapons or those that rely on them in their national security doctrines. And yet, the concerned States continue with upward trends in proliferation and modernization of nuclear weapons, serving as a clear testimony that the bleak assessment of the current security environment and nuclear risks in the region is commonly shared.

Nuclear risks in global context are potentially at the highest point in human history. The absence of absolute guarantee or prohibition against potential eruption of nuclear war at a global scale resulted in a widespread state of anxiety among both leaders and societies. Leaders then resorted to an immediate action of prioritizing respective national security interests such as beefing up defense capabilities, sometimes to the detriment of global pursuits of international peace and security as well as avoidance of conflicts.

### **2. How have nuclear risks changed in recent years—and why?**

Nuclear risks have increased exponentially in recent years, due to rapidly changing geopolitical dynamics and inward-looking approaches by States, prioritizing national security interests above the common interest of global security. The major underlying factor that allows these worrying developments is the sizeable gap between international instruments relating to peace and security and their practical application in today's context.

Important international instruments and treaties relating to peace and security mostly came into existence several decades ago, relying on an unsubstantiated assumption that the equilibrium of the nation-state system will always persist regardless of any disruptions, and that countries will permanently act according to commonly applied norms and principles of responsible State behavior.

On the contrary, countries today would not hesitate to depart from those norms and principles at any time, while disregarding the rules set by age-old international security architecture, if their national security interests and priorities are at risk.

### **3. How are those risks likely to evolve in the future?**

Those risks are likely to worsen in the foreseeable future, if the current trends of geopolitical rivalries and inward mentality of putting national security interests first continue.

The risks are further exacerbated by several fluctuating factors that include human behavior, geopolitical dynamics and domestic political developments in respective countries. The factors are

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continuously evolving, making it a challenge for policy-makers to accurately project the global security outlook in the coming months and years.

#### **4. What are the implications of those risks and how can they best be addressed over the short- and long-term?**

The lingering nuclear risks would inadvertently motivate countries to enhance their national defense capabilities, on the premise that it would give them a better sense of security. Countries would subsequently continue to pursue proliferation and modernization of existing nuclear weapons.

As a result, nuclear weapons would feature more prominently in the national security and defense doctrines of countries. At some point, the non-nuclear-weapon States would find greater incentives and the urge to pursue armament and proliferation of nuclear weapons, even to the extent of violating relevant provisions of the NPT. This might materialize as the cost of non-complying with international law and treaties would not outweigh the heavy price of putting their national security interests under real threat of attacks.

Over the short-term, leaders and policy makers need to urgently come to a realization that the existing international disarmament and non-proliferation regime, including the NPT, is in a state of crisis. That realization should give a conviction that, while the existing regime and framework are not in order, they should be preserved and guarded, as best as possible. This begins with serious and concerted efforts by all NPT States Parties, to effectively pursue and implement their obligations and commitments.

Over the long-term, in the course of deliberations relating to international peace and security and arms control, countries need to uphold a common perspective that puts the global interests above domestic and national security priorities. After all, in discussing the impacts of nuclear-weapon use in today's context, there is no such concept as national border or security, given that the transboundary effects of nuclear explosions are all-encompassing, including the critical aspects of food security and earth temperature.

#### **5. What are the implications for discussion and pursuit of risk reduction and disarmament in the NPT review process, beginning with the August 2023 meeting of the Preparatory Committee?**

Judging by recent deliberations during the 10<sup>th</sup> NPT Review Conference and the preceding Preparatory Committee Sessions (PrepComs), it is best for both topics of disarmament and risk reduction to be discussed hand-in-hand. But this approach requires the buy-in from the Group of NAM States Parties to the NPT, the largest political group, whose membership is still predominantly unconvinced of the utility of discussing risk reduction measures.

Once the NAM States Parties are on board, then substantive and genuine discussions on both topics could take place. At the early stages of the new NPT review cycle, such as during the forthcoming First PrepCom in August 2023, States Parties could avoid repeating old mantras and well-known positions, rather focusing more on trying to closely listen to and understand the point of view by

others. However, care should be taken so as to avoid any attempt to change the goalpost by intermingling competing and inconsistent terminologies during the discussion, such as between “*nuclear risk reduction*” and “*strategic risk reduction*.”

## **1. How do you perceive nuclear risks, both in your region and globally?**

Anxiety over the risk of both accidental and intentional nuclear use is growing, and I share that anxiety. In fact, I would move the hands of the Doomsday Clock even closer to midnight than 90 seconds, and I suspect many others would, too. Deteriorating relations between the great powers, unresolved territorial disputes, renewed arms racing dynamics, and developments in strategic technologies and new domains of warfare have been increasing nuclear risks for years. But more recently, the blatant and veiled nuclear threats between Russia and NATO, and the potential for Russia's war on Ukraine to lead to a nuclear catastrophe at a nuclear power plant, escalate to nuclear weapons use, or even result in a nuclear war involving Russia and NATO, have dramatically increased my perceptions of nuclear risk in Europe and globally.

I'm also increasingly concerned about nuclear risks in the Asia-Pacific, some of which do not receive enough attention from Western scholars. Working for the Asia-Pacific Leadership Network, I'm closest to the nuclear debates that take place in Asia and Oceania. On the Korean peninsula, the DPRK's nuclear doctrine and missile activities are becoming more aggressive and reckless, increasing fears of nuclear use, including the potential for a first strike. In South Asia, India and Pakistan have been living with a heightened risk of nuclear war for years, complicated by China's involvement in the strategic triangle. But India's accidental missile launch in 2022 brought nuclear dangers—including the possibility of accidental nuclear use—into even sharper focus on the subcontinent and the wider region.

Perhaps even more significant, however, in terms of Asia-Pacific nuclear risks and the Doomsday Clock, is the growing threat of a nuclear war involving China. For many experts and practitioners in this region, the possibility of an escalating conflict over Taiwan is all too real, based on China's recent policy pronouncements, the build up of its nuclear and other strategic capabilities, and fundamental disagreements and perception gaps in its relations with the U.S., its immediate neighbours, and other states in the region. Many non-nuclear weapon states fear they could become caught up in a Taiwan contingency. In Australia, Japan, and South Korea, for example, strategic experts worry just as much about entrapment as they do about abandonment by the United States. They also worry about the 'boiling frog problem'—the sense that some political leaders in the region and globally are becoming so inured to rising strategic risks that a culture of permissiveness is developing. These fears are valid given that in some circles, nuclear weapons are being presented by political and military leaders as "cure alls" for current and future insecurity, without informed public discussion of their costs and the risks they pose.

## **2. Second, how have nuclear risks changed in recent years—and why?**

In addressing the broad questions of how and why nuclear risks have changed in recent years, I think many analysts would address the impact of new and emerging technologies and their implications for nuclear command and control. I would concur, but I believe the deliberate use of tactical nuclear weapons in an escalating conflict is a more immediate risk, partly spurred by the

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growing culture of permissiveness mentioned above. The various causes and consequences of this emerging culture for nuclear risk—and existential risk in general—need to be addressed, and I would highlight three baskets of issues that deserve urgent attention:

- The trend towards fatalism, parochialism, machoism, short-termism, and zero-sum thinking among political elites, triggered by a combination of factors, including the failure of collective security, knowledge that climate crisis is now unavoidable and only going to get worse, and fear over the consequences of future resource scarcity.
- Disinformation campaigns, false narratives, the resurgence of nationalism, and adversarial patterns of thinking, leading to perception gaps and spirals of mistrust that can make increasingly rare attempts at dialogue and confidence-building backfire.
- Disagreements over the legitimacy and continuing relevance of the rules-based order, which need to be understood in the context of numerous failures of multilateralism, leading to the selective interpretation and application of international law by the most powerful states, and to widening East-West/North-South divides.

### **3. How are those risks likely to evolve in the future?**

The evolution of nuclear risks depends on so many factors, from developments in missile capabilities to quantum applications, much of which is highly speculative. But some aspects of the future risk landscape are subject to shorter-term direct and indirect dynamics that are easier to predict: the outcome of Russia's war in Ukraine and how states respond to it; how China manages its continuing rise and how states react to these developments; how domestic political turbulence is managed in key states—especially in the U.S. and China, but also in Iran and other nuclear aspirant states; the calibre of international leadership on arms control and disarmament; whether states are able to engage China and North Korea in constructive dialogue on strategic stability, arms control, and disarmament; how the NPT holdout states address nuclear dangers; how knowledge of nuclear and other strategic risks develops and how this knowledge is shared; whether norms around the use of existing and emerging disruptive technologies can be developed; how the national, regional and international technical and diplomatic mechanisms for addressing nuclear risks evolve, including via new initiatives; whether disarmament momentum can be reinvigorated; and whether confidence in the existing multilateral system can be rebuilt, or a new global architecture based on agreed principles of global justice can be envisioned and constructed.

There are also some more specific developments that could impact how nuclear risks evolve: a nuclear catastrophe, whether it occurs by accident or intent, due to nuclear weapons use or a devastating attack on a nuclear facility, could lead political and military leaders in nuclear-armed states to reassess the costs and benefits of nuclear deterrence and the level of risks they and their publics are willing to accept. A reassessment of this kind could lead to the urgent prioritisation of nuclear risk reduction via every means possible, and not only in the states directly impacted. With this in mind, studies that explore different types of nuclear use and their consequences could be helpful in generating international momentum to reduce nuclear dangers, especially if the research is well-informed, accessible, compelling, and widely disseminated. APLN runs a project along these lines in collaboration with the Nautilus Institute, exploring possible nuclear use cases on the

Korean peninsula and more widely in Northeast Asia. More projects of this type—and collaborations between them, including through the launch of Track 2 dialogues—would help sharpen the focus on nuclear risk reduction as a global humanitarian priority that must be depoliticised.

#### **4. What are the implications of those risks and how can they best be addressed over the short- and long-term?**

This question goes to the heart of the issue of whether the international community should focus on managing nuclear risks in a world where nuclear deterrence remains a fundamental element of the international security architecture, or whether the only way to reduce nuclear risks to an acceptable level is to eliminate nuclear weapons altogether. Framing the issue as a stark choice between nuclear deterrence and nuclear abolition can be tempting, because it simplifies an extremely complex problem in a way that makes it easily digestible. But in other ways it can be unhelpful, representing a false dichotomy in which there are few policy options and little room for compromise. The reality is that nuclear risk reduction is an urgent necessity and a shared responsibility, whatever one's beliefs about the pros and cons of nuclear deterrence and the feasibility of nuclear abolition. And because it's in the interests of all states, all people, and all living things to prevent nuclear catastrophe in our world of growing nuclear dangers, it is better to frame the problem and the solution in terms of cosmopolitan security (the safety and security of all life) and as an ethical and humanitarian priority that demands urgent action, whether or not a nuclear weapons free world is achievable.

On a practical level, there's broad agreement among experts on many of the steps needed to reduce nuclear risks, some of which can and should be taken unilaterally and immediately by the states that possess nuclear weapons. Obvious examples include reducing the operational status of nuclear weapons systems, adopting high standards of declaratory restraint, and engaging in voluntary information-sharing on nuclear weapons and related activities. Other practical measures require diplomatic cooperation, such as: improving military-to-military contacts; establishing crisis-proof communication lines; setting up notification and data exchange agreements; pursuing early conflict prevention and resolution in relation to nuclear and other strategic threats; and engaging in dialogue on de-escalation pathways.

These and numerous other risk reduction steps are outlined in numerous expert papers that assess risks in light of new technologies and new strategic weapon systems: there's no shortage of analysis, no shortage of ideas and it is important that this work continues. However, the more difficult challenges are political and philosophical and go beyond the nuclear sphere: how to create a sense of agency, responsibility, unity of purpose, and accountability to address existential risks, from climate change to nuclear catastrophe, from devastating pandemic to cataclysmic asteroid strike. The nuclear-armed states all claim that they are addressing existential risks, that they behave responsibly, that they have the safety and security of their publics (and that of their allies) in mind as they carefully manage these risks. But their approach is primarily self-interested, parochial, exclusive, and limited by short-termism. The United States, for example, presents itself as a global leader on nuclear risk reduction, and yet its president retains sole authority to authorise the use of nuclear weapons, risking a rash decision by an unhinged leader. China claims that “no safety or security problems involving nuclear weapons have ever occurred in China”—a claim that can only

be false and smacks of extreme complacency given what the historical record reveals about nuclear near misses over time. Worse still, Russia's development of 'exotic' nuclear weapons based on dubious technologies, its lack of declaratory restraint, and its use of nuclear intimidation in its war on Ukraine demonstrate a cavalier attitude to nuclear risk. Finding ways to address this failure of leadership is the most difficult and important task facing humanity.

This raises important questions about the ways in which the diplomatic community (experts, practitioners, NGOs, and academics) can help. The fact is that those who have the most direct and immediate impact on nuclear risk are political and military leaders and personnel, as well as technicians and engineers involved in the nuclear industry—their decisions, procedures and operations are key to whether a nuclear catastrophe occurs, whether intentionally or due to miscalculation or accident. But the diplomatic community also has an important role to play, including by tackling the growing culture of permissiveness around nuclear weapons.

Over time, a number of constructive state-led and NGO initiatives have contributed to nuclear risk reduction efforts by working to increase transparency and accountability, but many (including the Stockholm Initiative) have become internally divided, and their future is uncertain. The growing threat of nuclear war justifies a major re-evaluation, reset, and expansion of these diplomatic efforts, including by ensuring that questions of ethics and justice are front and centre in discussions of nuclear risks, nuclear use, and nuclear risk reduction.

The following new initiatives would be helpful (in addition to those discussed in response to question 5):

- An ambitious new summit process dedicated to nuclear risk reduction, framed as a shared responsibility in the pursuit of undiminished security for all, and with the welfare of all life on earth and future generations in mind.
- High level discussions on how to define and address nuclear risks at existing Summit meetings, such as meetings of the G7, and in regional forums, such as the ASEAN Regional Forum and East Asia Summit, and in bilateral and minilateral dialogue initiatives.
- Efforts by states in the Asia-Pacific to ensure their concerns about the humanitarian impact of nuclear weapons are heard, including by taking opportunities to engage states from outside the region in ethical debates about how and why nuclear risks are changing and what needs to be done to ensure political leaders tackle them effectively and collaboratively.
- Collaboration between the diplomatic community and civil society initiatives to reinvigorate the humanitarian consequences initiative, including via a series of Asia-Pacific conferences hosted and led by states in the region.

**5. What are the implications for discussion and pursuit of risk reduction and disarmament in the NPT review process, beginning with the August 2023 meeting of the Preparatory Committee?**

Strong language on nuclear risk reduction in the unadopted final draft of the 2022 NPT Review Conference was lauded as a success by many in the expert community. But the month-long negotiations revealed significant divisions and frustration over the nuclear risk reduction agenda, including among members of the New Agenda Coalition and the Non-Aligned Movement, who fear that risk reduction efforts are being used to justify the continued possession of nuclear weapons by the NWS, with the support of their allies. Critics emphasized that while reducing nuclear risks is an urgent priority, it does not represent significant progress on fulfilling Article VI disarmament obligations, and in fact could be a backward step on the journey to a nuclear weapons free world if it becomes part of a NWS-led agenda to set new, lower benchmarks for disarmament in the NPT review process.

Managing these frustrations was a difficult task for the RevCon president, and hearing them was deeply troubling to many in the diplomatic community, who have highlighted nuclear risk reduction as an important area of common ground between NWS and NNWS—an area that must not be politicized, and where progress is essential and possible on Article VI.

The gap between these positions is wider than the RevCon’s unadopted final text would suggest. Ignoring these divisions and continuing with a strategy of framing nuclear risk reduction as a contribution to progress on Article VI could too easily backfire, allowing the issue to become even more politicized at the 2023 NPT PrepCom and throughout the 2026 review cycle. A careful reassessment of how the discussion is framed by states and NGOs is therefore needed. Proposals could include:

- A new NPT initiative that frames nuclear risk reduction as an ethical and humanitarian emergency rather than as a step on the long road to a world without nuclear weapons.
- Practical steps to depoliticise the nuclear risk reduction debate, including an agreement by all NWS to submit dedicated reports during the 2026 review cycle that set out, in detail, the steps they are taking to reduce the risk of accidental and intentional nuclear use.
- A study on the roles NPT coalitions, NGOs, and state-led initiatives currently play in shaping the nuclear risk reduction agenda in the NPT review process, including strategies for moving forward via collaborative efforts.

Dr. Olamide Samuel<sup>14</sup>

I will kick-off my remarks by recalling NTI's recent side event to the 2020/22 NPT review conference, titled *Regional Perspectives on Strengthening the NPT*.<sup>15</sup> This insightful event drew on lessons learned from regional consultations conducted as part of the Global Enterprise Project. The panel featured representatives who accounted for the thematic explorations that occurred in the Latin American, African and Asia-Pacific regions. At the end of the side event, the panellists were confronted with a question posed by an observer:

*“How do we know that risks have been reduced...what’s the metric for measurement...how do we know that risks in 2023 or 2024 are lower, or higher than they are today, other than the general discussions that we have?”*

Considering the stage of conceptual development regarding nuclear risks, and the fact that, so far, examples of risk reduction implementation have been very limited and short-lived, it was not possible to obtain a definitive answer to the proposed question. This question however, sparked responses that highlighted just how remarkably varied perceptions of risk reduction are at the regional level.

Responses from the Latin American and Asia-Pacific representatives explored the fundamental dichotomy at the centre of the nuclear risk discourse. On the one hand, panellists explored nuclear risk from the lens of strategic risk reduction—a discourse that accepts and seeks to manage the temporary continuation of nuclear deterrence relationships as part of the international security architecture. On the other hand, panellists also expressed their concern about the inherent and unacceptable risks posed by the very existence of nuclear weapons. In this regard, they underscored the necessity, but also the fragility of strategic risk reduction approaches. They were especially wary of those approaches that appear to undermine or dilute support for the ultimate goal of nuclear disarmament.

### **Nuclear Risks in the African Regional Context**

However, as I am primarily concerned with the African regional context, I found the response of the regional representative for Africa most interesting, and most familiar. This response relayed the regionally widespread understanding of nuclear risk reduction, as inclusive of: *‘the risk of accidents, as well as terrorist attacks involving a radiological dispersal device, a radiological exposure device, or sabotage of a nuclear facility.’* The representative stressed that risk reduction perceptions are subjective, and that there is dire need for definitional clarity concerning nuclear risk reduction—before any identified variables can be measured and tracked over time, to offer an assessment of the evolution of nuclear risks. This proposed expansion of the nuclear risk agenda was immediately met with some resistance, as another regional representative reiterated that *‘risk reduction within the framework of this project refers to the risk of use of nuclear weapons.’* My takeaway from this exchange is that there is a need for definitional clarity regarding the concept of nuclear risks.

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<sup>15</sup> <https://media.un.org/en/asset/k1q/k1qjs50nkw>



The African regional position on nuclear risks, considers nuclear weapons themselves as inherently dangerous. The near universality of the Pelindaba Treaty (the African Nuclear Weapons Free Zone Treaty) and the TPNW on the continent, illustrates this understanding.<sup>16</sup> The statement on behalf of the Africa Group to the 2022 NPT RevCon reiterates this understanding of nuclear weapons as inherently dangerous: “*The threat posed to humanity by the continued existence of nuclear weapon[s] is real and the risk significant.*”<sup>17</sup> The African response to nuclear weapons has been to consistently advocate for their elimination. This position influences African perceptions of strategic risk reduction approaches. There is widespread scepticism concerning the intentions of strategic risk reduction approaches, which are increasingly viewed as a detraction from further disarmament commitments by NWS.<sup>18</sup> For example, South Africa’s contribution to the recent NPT RevCon general debate, expressed dissatisfaction with the current state of affairs in the risk reduction enterprise: “*Any risk reduction measure must not be addressed minimally in terms of nuclear weapon States providing political signals and holding dialogues amongst themselves on creating the environment for nuclear disarmament.*”<sup>19</sup>

### **Nuclear Risk in the Global Context**

On a whole, nuclear risk can be considered as the combination of two factors: (a) the likelihood of a dangerous nuclear event occurring, and (b) the severity of its consequences.<sup>20</sup> Obviously, a plethora of dangerous nuclear events remain highly probable because of the very existence and retention of nuclear weapons by some states. An indicative list of such nuclear events include: vertical and horizontal proliferation, loss of control over nuclear weapons (due to theft, accident, or unauthorized access), proliferation of weapons-grade fissile material, and nuclear terrorism. Given the heightened probability of military conflict among various nuclear weapons states in the current geopolitical context, the concept of nuclear risk reduction has been considerably refined to focus on averting the most extreme versions of such nuclear events, involving the actual use of nuclear weapons in a conflict scenario.

Consequently, nuclear weapons risk discourse at the global level is primarily concerned with understanding, measuring, and reducing the probability of the intentional or accidental detonations of nuclear weapons. In this light, Wan’s distillation of nuclear risk into the categories of *Doctrinal*, *Escalatory*, *Unauthorised*, and *Accidental* risk has emerged as one of the most instructive conceptual refinements in global discourse.<sup>21</sup> Wan’s conceptualisation has lent structure to the most recent interpretations of Action 5 of the 2010 NPT Action Plan.<sup>22</sup> These interpretations

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<sup>16</sup> Voting patterns on TPNW related motions in the UNGA since 2017 reflect this, as well as the near universality of the Pelindaba treaty, and African Union declarations on the denuclearisation of the continent have been unambiguous.

<sup>17</sup> [https://reachingcriticalwill.org/images/documents/Disarmament-fora/npt/revcon2022/statements/2Aug\\_AfricanGroup.pdf](https://reachingcriticalwill.org/images/documents/Disarmament-fora/npt/revcon2022/statements/2Aug_AfricanGroup.pdf)

<sup>18</sup> <https://basicint.org/wp-content/uploads/2020/06/Strategic-Risk-Reduction-in-the-European-Context-WEB-1.pdf>

<sup>19</sup> [https://reachingcriticalwill.org/images/documents/Disarmament-fora/npt/revcon2022/statements/2Aug\\_SouthAfrica.pdf](https://reachingcriticalwill.org/images/documents/Disarmament-fora/npt/revcon2022/statements/2Aug_SouthAfrica.pdf)

<sup>20</sup> See for example:

[https://www.ifri.org/sites/default/files/atoms/files/brustlein\\_risk\\_reduction\\_nuclear\\_weapons\\_possessors\\_2021.pdf](https://www.ifri.org/sites/default/files/atoms/files/brustlein_risk_reduction_nuclear_weapons_possessors_2021.pdf)

<sup>21</sup> <https://undir.org/sites/default/files/publication/pdfs//nuclear-risk-reduction-the-state-of-ideas-en-767.pdf>

<sup>22</sup> For example, see NPT Working Paper by the Stockholm Initiative: A nuclear risk reduction package [NPT/CONF.2020/ WP.9, 14 May 2021]

comprise of the *Stepping Stone* approach proposed by the Stockholm initiative, *Creating an Environment for Nuclear Disarmament* (CEND) working group, and the *Non-Proliferation and Disarmament Initiative* (NPDI) recommendations on nuclear risk reduction. Taken together, these interpretations all propose incremental and short-term strategies for mitigating nuclear risk (alongside formal arms control, and managed systems of deterrence), and these proposals are primarily aimed at NWS.

### **Definitional Inconsistencies: Dissociating the African and Global discourses on Nuclear Risk**

Recalling the exchange between regional representatives at the NTI NPT side event, reveals that interactions between the African and global discourses on nuclear risk, accentuates inconsistencies regarding the proposed scope of its applicability. The broader definition of nuclear risk as the combination of (a) the likelihood of a dangerous nuclear event occurring, and (b) the severity of its consequences, does not exclude dangerous nuclear events that are not necessarily proximal to the existence of nuclear weapons. Other dangerous nuclear events including nuclear terrorism, proliferation, and the weaponisation of radiological dispersal/exposure, are intrinsic to African considerations of nuclear risks—as the African regional representative highlighted.

From this regional perspective, the inclusion of these nuclear events is sensible, because these happen to be dangerous nuclear events that are most probable—especially in a region devoid of any nuclear weapons. It is therefore understandable that any consultations with African regional policy makers on the subject of nuclear risks, will primarily reflect their priority security concerns, before secondary consideration is given to nuclear *weapons* risk reduction (and strategic risk reduction) issues—and this is before one accounts for African scepticism towards strategic risk reduction rhetoric.

In attempting to join up the regional and global discourses, I am tempted to advocate for the conceptual standardisation of nuclear risk / nuclear weapons risk to solve the problem of regional variance. However, I must warn that it is a solution that runs the risk of excluding African regional partners, as the combination of scepticism (concerning strategic risk discourse) and disinterest (given the prevalence of other priority security concerns), might lead to a situation whereby only the most active states in the nuclear sphere (e.g. South Africa, Nigeria and Egypt) have a justifiable need to continue engagement with global nuclear weapons risk reduction discourses.

Another obstacle to the standardisation of nuclear risk reduction concepts, is related to the absence of consensus around even its most basic constitutive parts. I will temporarily park my mildly obvious African bias, so that we can more clearly consider nuclear *weapons* risk reduction discourse from a global perspective, with the aim of forging definitional clarity that could eventually be standardised.

For definitional clarity, I believe we can agree that nuclear weapons are *widely understood* to be explosive devices which have been designed to derive their destructive force, primarily from nuclear reactions (i.e. nuclear fission, fusion, or a combination of both). While it might appear

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[https://www.government.se/4a2425/contentassets/690891c6d51244e188aa6e8f2677f57c/workingpapernuclearriskreduction\\_stockholminitiative\\_endorsed-by-21-states-july-2021.pdf](https://www.government.se/4a2425/contentassets/690891c6d51244e188aa6e8f2677f57c/workingpapernuclearriskreduction_stockholminitiative_endorsed-by-21-states-july-2021.pdf)

fatuous to be considering the definition of nuclear weapons in this forum, I think it is important that parties to a nuclear weapons risk reduction dialogue, conceive of the same basic contraption when referring to nuclear weapons. Yet, I find that there is no explicit treaty based definition of a nuclear weapon, which diverse parties can use as a mutual starting point for discussions with legal implications. Even the *P5 Glossary of Key Nuclear Terms* refrains from offering a definition of nuclear weapons; the glossary only defines some component parts and delivery mechanisms.<sup>23</sup> The reality is, that the very definition of nuclear weapons remains a highly politicised issue, which has been sidestepped by the treaty mechanisms that underscore the nuclear order. Like the P5 glossary, neither the NPT nor the TPNW offer any authoritative definition of what nuclear weapons are, and equally importantly, what they are not. Historical attempts to define a nuclear weapon, in a manner distinct from Radiological Weapons during the CD's negotiation of a draft Radiological Weapons Convention (RWC) in the 1980s, ultimately contributed to the failure of negotiations. In this instance, drawing definitional lines between nuclear weapons, enhanced radiation weapons (e.g. the neutron bomb), radiological weapons, and the weaponisation of radioactivity (e.g. through the use of nuclear facilities as radiological weapons), became a complicated exercise that was ultimately unsuccessful. So while the avoidance of an authoritative definition of nuclear weapons stems from diplomatic pragmatism, this avoidance also underscores the immense progress required, if we are to realistically assess and manage the risks posed by these weapons.

Paradoxically, it seems that overcoming the problems raised by the African regional inclusion of nuclear events such as nuclear terrorism and the weaponisation of radiological dispersal/exposure in nuclear risk discourse, cannot be achieved by simply confining the discourse to an accepted definition of nuclear weapons—as we are still unable to legally agree on what exactly a nuclear weapon is. Tangentially, it is also worth questioning whether the recent Russian attacks on the Zaporizhzhia nuclear power plant qualifies as an issue worth considering in the nuclear risk discourse in the context of rising geopolitical tensions. Should the issue firmly remain within the nuclear safety and security discourse, in the event that sustained Russian attacks invariably weaponise the risk of radiation exposure and dispersal in conflict?

[For the sake of brevity, I will not delve into the blurring of definitional lines between nuclear risk and nuclear security that was encoded in the 2020 Ministerial Declaration of the International Conference on Nuclear Security.<sup>24</sup>]

Notwithstanding our inability to agree on what a nuclear weapon is, it remains possible to connect African nuclear risk concerns, with the evolving global discourse on nuclear risk.

### **The Evolution of Nuclear Risk in Africa**

As we know, Africa is a region devoid of any nuclear weapons. It is also a region that firmly advocates for the consideration of nuclear weapons as inherently dangerous. This is due to its historical relationship with the global nuclear order, which has been one characterised by pre-existing colonial relationships and exploitation.

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<sup>23</sup> [http://un.china-mission.gov.cn/eng/chinaandun/disarmament\\_armscontrol/npt/202112/P020211229399493527828.pdf](http://un.china-mission.gov.cn/eng/chinaandun/disarmament_armscontrol/npt/202112/P020211229399493527828.pdf)

<sup>24</sup> <https://nonproliferation.org/wp-content/uploads/2021/12/npt-briefing-book-2022.pdf> (See page 251)

### Historical Risks

The introduction of nuclear weapons on the international scene was made possible, in part, because of existing mechanisms of colonial exploitation. After all, it was uranium obtained from the Shinkolobwe mines in Congo, which fuelled the nuclear bombings of Hiroshima and Nagasaki.<sup>25</sup> France leveraged its colonial domination of the Algerian Sahara in its decision to repeatedly test nuclear weapons there.<sup>26</sup> In both cases, indigenes and their descendants from Likasi (the nearest town to Shinkolobwe) and Reggane, still suffer from the negative effects of radioactive exposure till this day.<sup>27</sup> Similarly, the white supremacist, apartheid South African government justified its retention of nuclear weapons as a deterrent against black nationalist movements in the Southern African region. They even devised a new kind of ‘catalytic’ nuclear deterrence to ensure the survival of white supremacy and exploitation in the region.<sup>28</sup>

These brief examples illustrate the historical nature of African exposure to the impacts of ‘managed nuclear deterrence’ (as William Walker terms it). Africa was routinely the proving ground for nuclear capabilities that fuelled cold war rivalries in the western world. As a result, African attempts to limit its exposure to nuclear rivalries have resulted in the near universal ratification of the NPT on the continent, and its consistent support for the fulfilment of the treaty’s Art VI obligations by NWS. These exposure limiting attempts also feature in the rapidly accelerating universalisation of the TPNW in Africa. Yet, Africa still remains exposed to great power competition and nuclear rivalry today—and I am not merely referring to the universal effects of nuclear weapons use / nuclear winter.

### Contemporary Risks

The Pelindaba treaty (the African Nuclear Weapons Free Zone treaty), is the primary mechanism that designates Africa as a nuclear free zone. The Pelindaba treaty came into force in 2009, after the ratification of the 28<sup>th</sup> state party. Since then, the Pelindaba treaty has received 42 ratifications. Recalling Africa’s historical exposure to the nuclear colonialism, the treaty further invites NWS to ratify its protocols. Protocol I aims to isolate Africa from global systems of nuclear deterrence by calling on NPT recognised NWS to forswear threats (to use) and the use of any nuclear explosive devices against any Pelindaba state party, and within the African nuclear weapon free zone. Protocol II erects a legal barrier against nuclear testing by any NWS, thereby protecting Africa from once again becoming a nuclear testing and proving ground for NWS. Protocol III deals with the remnants of colonial expansion, by calling on external states (France and Spain) that administer any territories within the region, to apply Pelindaba’s treaty provisions to those territories. France, China, the UK, Russia and the U.S. all signed the treaty’s protocols in 1996. With the exception of the U.S. and Spain, the aforementioned states proceeded to ratify Pelindaba’s protocols.

### Future Risks

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<sup>25</sup> <https://www.bbc.com/future/article/20200803-the-forgotten-mine-that-built-the-atomic-bomb>

<sup>26</sup> <https://www.france24.com/en/live-news/20210729-france-s-1960s-nuclear-tests-in-algeria-still-poison-ties>

<sup>27</sup> <https://www.bbc.co.uk/news/world-africa-56799670>

<sup>28</sup> <https://www.africabib.org/rec.php?RID=363927824>

Given the worsening global strategic context, I am of the opinion that the U.S.'s failure to ratify Pelindaba's protocols presents a source of nuclear weapons risk on the continent. This is not to say that the U.S. has revealed any strategic or operational plans to station nuclear weapons in the AFNWFZ, as Mpofu-Walsh has illustrated that successive Democratic presidential administrations have expressed support for U.S. ratification.<sup>29</sup> However, the nuclear risk stems from the fact that the U.S.'s failure to ratify Pelindaba, jeopardises the permanence of other NWS ratifications. Mpofu-Walsh states: "*Why should France, the UK, China, or Russia limit their nuclear potential in these regions, when the US refuses to? Great diplomatic effort has been spent in uniting the other four nuclear powers around ratification. If the US persists with non-ratification, that diplomatic work could be undone.*"<sup>30</sup> As relations between the U.S. and Russia stoop to record lows in light of Putin's illegal war on Ukraine, it is troubling to note that Russia has previously expressed its concern over the U.S.'s non ratification of Pelindaba. Uncertainty in this facet of nuclear order becomes amplified, when one considers the rapid decimation of bilateral arms control agreements between the U.S. and Russia, in favour of securing strategic advantages. (It is also concerning that the African Union has not invited other non-NPT NWS to ratify the Pelindaba treaty.)<sup>31</sup>

### **Implications for Discussions**

Interestingly, further considering the nuclear risks posed by non-ratification of the Pelindaba treaty, might serve as a solution to the dissociated African regional and global approaches to the concept of nuclear risks. One avenue that is currently underappreciated (due to African scepticism of risk reduction rhetoric), lies in the Stockholm Initiative's stepping stones approach. Of the '*Possible measures to include in a stepping stone approach*,' NWS ratification of outstanding protocols to nuclear weapon-free-zones features prominently. It recalls Action 10 of the 2010 NPT RevCon final document, which encourages NWS to ratify NWFZs and review any related reservations attached to their ratifications.

Utilising the stepping stones option towards NWFZ ratification, serves two distinct purposes. Firstly, it could serve as a starting point for the rearticulation of a nuclear risk reduction discourse, in terms that remain sensitive to African security concerns. Secondly, if we actively recall that the evolution of the Stepping Stones approach occurred within the wider NPT review framework, and that NWFZ ratification was a condition for the indefinite extension of the NPT in 1995, proposals to include this issue in the 2023 NPT PrepCom discussions might be viewed in favourable light.

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<sup>29</sup> [https://basicint.org/wp-content/uploads/2021/11/21\\_070\\_BASIC\\_Ratifying-Rarotonga-and-Pelindaba-report\\_FINAL\\_WEB.pdf](https://basicint.org/wp-content/uploads/2021/11/21_070_BASIC_Ratifying-Rarotonga-and-Pelindaba-report_FINAL_WEB.pdf)

<sup>30</sup> *Ibid*

<sup>31</sup> <http://www.scielo.org.za/pdf/hist/v57n2/08.pdf>